

ENVIS Centre
AVIAN ECOLOGY

BUCEROS

ENVIS Newsletter

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ENVIS

ENVIS (Environmental Information System) is a network of subject specific centers located in various institutions throughout India. The Focal Point of the present 78 ENVIS centres in India is at the Ministry of Environment and Forests, New Delhi, which further serves as the Regional Service Centre (RCS) for INFOTERRA, the global information network of the United Nations Environment Programme (UNEP) to cater to environment information needs in the South Asian sub-region. The primary objective of all ENVIS centres is to collect, collate, store and disseminate environment related information to various user groups, including researchers, policy planners and decision makers.

The ENVIS Centre at the Bombay Natural History Society was set up in June 1996 to serve as a source of information on Avian Ecology and Inland Wetlands.

ENVIS TEAM AT THE BNHS

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Cover: Black-naped Blue Monarch *Hypothymis azurea* by Vivek Kale

Other photo credits: N. Bhopale, A. Awalaskar, V. Ambre, D. Awati, S. Narwade

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Bharatpur Bird Sanctuary may lose UNESCO recognition

Keoladeo National Park at Bharatpur, Rajasthan is facing de-recognition from the list of UNESCO's world heritage site after a two-member team of UNESCO pointed out the persistent water crisis in the Sanctuary. They interacted with the officials and local residents in Bharatpur to get the information about their views on the problems faced at the bird sanctuary. The alarming water shortage in the Sanctuary has already taken its toll on the turnout of the winged migratory visitors. One reason has been the poor rainfall during the monsoon in the last couple of years, and inadequate supply of water to the wetland and the ponds. To address the emergency situation, four new deep bore wells and two new shallow bore wells have been dug inside the park. However the construction of wells has not been of much help since birds prefer flowing water. The Rajasthan government is now in the process of releasing water from the neighboring Panchna dam for supply in the sanctuary.

For more details:

<http://timesofindia.indiatimes.com/articleshow/2862065.cms>



A marshy area at Keoladeo National Park
(Credit: Vivek R. Sinha)

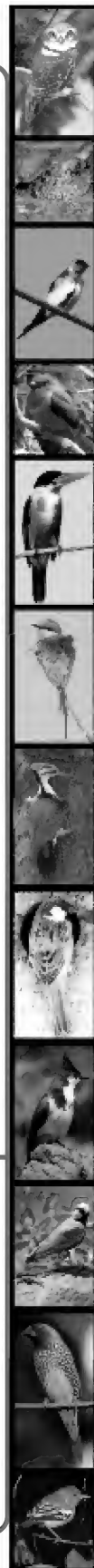
Pipeline plan to bring water, new life to Keoladeo National Park

Over 35,000 wetland birds visited Bharatpur's Keoladeo National Park in January 2009, following a heavy monsoon in 2008, as per the latest bird census. Last year, only 5,000 birds visited the park. The difference in the number of winged visitors to Keoladeo, a UNESCO World Heritage Site, explains the dependence of the park on the mood of the monsoon. This may not be the case any more. The Planning Commission has released Rs. 56 crore to lay a 17-km-long pipeline, linking the monsoon-fed Govardhan drain to the Keoladeo National Park. The pipeline work, which will be carried out by the Rajasthan Irrigation Department, should be complete in 17 months. The problem of lack of water at Keoladeo, recognised as one of the most important stops for migratory birds from Siberia and Central Asia, started in the 1990s when a second dam, Panchana, was built on the Gambhir river, which floods during the monsoon and is a main source of water to the Keoladeo National Park.

For more details: <http://www.indianexpress.com/news/pipeline-plan-to-bring-water-new-life-to-keoladeo/427691/>

More protected land needed for Great Indian Bustard

Much excitement was generated when a pair of Great Indian Bustards was sighted in Little Rann of Kutch near Tundi talav, Bajana in May 2008. According to Gujarat Ecological Education and Research (GEER) scientist the sighting of the endangered species suggests that if provided suitable grassland habitat, GIB could survive. They recommend that a large grassland plot be developed near the talav to increase chances of survival of the bustard. In fact, it says more land needs to be allocated for the conservation of the species and grasslands need to be improved in other parts of the state. The study reveals that bustards are distributed over 996 sq km with a core area of 97 sq km. However, only two sq km is protected as a sanctuary. Study suggests that Kanothia, Kalatalav, Bhachunda, Vinghaber and Parjau, which are revenue areas, be acquired under forest land. There is also need to enforce Wildlife Protection Act in the areas as the Spiny-



NATIONAL NEWS

tailed Lizard *Uromastix hardwickii*, an important prey species for the bustards, are poached by local communities.

For more details: <http://epaper.timesofindia.com/Default/Scripting/ArticleWin.asp?From=Archive&Source=Page&Skin=TOI&BaseHref=TOIA/2009/01/09&PageLabel=7&EntityId=Ar00702&ViewMode=HTML&GZ=T>

By how much?

A central Empowered Committee - appointed expert panel has suggested reducing the size of the Great Indian Bustard Sanctuary in Maharashtra to 1,22,200 hectares (ha). But the state government wants to reduce it further to 35,000 ha. The Sanctuary, a prime habitat of the Great Indian Bustard *Ardeotis nigriceps*, is spread over 8,50,000 ha across Solapur and Ahmednagar districts. A few years ago, the state government approached the Supreme Court seeking permission to build an irrigation canal through it. One of the requirements was to set up an expert panel to rationalize the size of the Sanctuary. According to the panel they have kept



Great Indian Bustard *Ardeotis nigriceps* at Nannaj Bustard Area (Credit: Dr. Ajit Deshmukh)

good habitat for the birds excluding all villages and developed areas. Meanwhile, in February 2008, Reliance Gas got an approval from the court for laying underground pipeline through the Sanctuary. Whether the pipeline route falls outside the government-suggested 35,000 ha sanctuary, is not clear. For more details: <http://www.indiaenvironmentportal.org.in/node/263751>



Greater Flamingos *Phoenicopterus roseus*
(Credit: Dilip Awati)

Delayed monsoon dries up Nal Sarovar turning it into a poachers' paradise

Nal Sarovar is witnessing some deadly nocturnal activity these days. Delayed monsoon has dried up the lake exposing flamingos and other winged visitors to poachers. At night villagers staying near the lake venture into the bird sanctuary stealthily, armed with small wooden clubs, which are otherwise used to wash clothes. They use these weapons to club flamingos to death. If the recovery of hundreds of nets near Nal Sarovar is an indicator, it is clear that poaching of the winged visitors is rampant in this Sanctuary. According to sources, people who stay in villages on the periphery of the Nal Sarovar indulge in such poaching. The tribes staying in the various spots within the Sarovar also prey on flamingos.

For more details: <http://timesofindia.indiatimes.com/Cities/Ahmedabad/Delayed-monsoon-dries-up-Nal-Sarovar-turning-it-into-a-Poachers-Paradise/articleshow/4735776.cms>



Wader populations decline faster than ever

According to a new publication by Wetlands International, more than half the populations of waders in Europe, West Asia and Africa are declining at an accelerating rate. Many of the waders undertake long distance migrations from their Arctic breeding grounds to wintering areas as far away as Southern Africa. Some concentrate in huge numbers at just a few sites, making these wetlands critical for their survival. Whilst many European Union (EU) Member States have established a fairly comprehensive network of protected areas for waders, the protection and management of key sites is still far from adequate beyond the EU's borders. The wetlands of the African west coast are under enormous pressures. Irrigation schemes for growing human population disrupt the water flow in wetlands such as the shrinking Lake Chad. The wetlands themselves are often converted to agricultural use - such as in the Tana River Delta in Kenya, which is threatened by conversion to sugar cane plantations. According to Dr Vicky Jones, BirdLife's Global Flyways Officer, migratory waterbirds can only be effectively conserved through international cooperation along their entire flyway. The Wings over Wetlands (WOW) project is making an enormous difference to the understanding of migratory waterbirds and their needs, demonstrating best practice in the conservation and wise-use of wetlands, and increasing cooperation along the African-Eurasian flyway. For more details: http://www.birdlife.org/news/news/2009/06/wader_atlas.html

Bird migration: toxic molecule may help birds 'see' North and South

Researchers at the University of Illinois report that a toxic molecule known to damage cells and cause disease may also play a pivotal role in bird migration. The molecule, superoxide, is proposed as a key player in the mysterious process that allows birds to "see" earth's magnetic field. Schulten and his colleagues discovered that magnetic fields can influence chemical reactions which involve electron transfers which result in freely tumbling spins of electrons. These spins behave like an axial compass. Changes in the electromagnetic field, such as those experienced by a bird changing direction in flight, appear to alter this biochemical compass in the eye, allowing the bird to see how its direction corresponds to north or south. Although known primarily as an agent of aging and cellular damage, superoxide recently has been recognized for its role in cellular signaling.

For more details: <http://www.sciencedaily.com/releases/2009/06/090622112758.htm>

Extinct seabird rediscovered in laboratory

Three University of Canterbury academics have helped rediscover a seabird thought to have been driven to extinction by hungry European sailors in the late 18th century. Dr. Tammy Steeves, Dr. Marie Hale and adjunct professor Richard Holdaway are part of a team of scientists from across New Zealand and Australia who have used an innovative multidisciplinary approach to resolve the taxonomic status of the "extinct" Tasman Booby *Sula tasmani*. It is the first study of its kind to report the rediscovery of an extinct bird using classical palaeontological data combined with ancient and modern DNA data. Once considered to be an extinct species, the Tasman Booby *Sula tasmani*, turned out to be a subspecies of a living species, the Masked Booby *Sula dactylatra fullagari*. And now these charismatic seabirds have been given a new name - *Sula dactylatra tasmani*. Many rediscoveries of 'extinct' birds are the result of an intensive search in the field, but theirs is a little different - they rediscovered the bird in the laboratory.

For more details: <http://www.canterbury.ac.nz/newsroom/090818a.shtml>



Dr. Tammy Steeves with booby fossils used in ancient DNA studies.
(Credit: Dr. Tammy Steeves)



ARTICLE

Indian Bird Conservation Network (IBCN): A foundation for the conservation of Indian birds through a network of partners and collaborators

The **Indian Bird Conservation Network (IBCN)** is a network of organisations and individuals promoting conservation of birds and their habitats in India and strengthening the biological diversity of the region. IBCN was established in 1998 by the Bombay Natural History Society (BNHS) in collaboration with BirdLife International, UK and the Royal Society for the Protection of Birds (RSPB) – BirdLife Partner in UK.

The mission of the IBCN is to promote conservation of birds and their habitats through development of a national network of individuals, organisations and the government. At present, IBCN is one of the leading membership networks with about 100 Indian organisations and 800 individuals all across India who work together to promote the conservation of birds and their habitats.

A fully coloured quarterly newsletter MISTNET is published for members, which focuses on threatened birds and Important Bird Areas (IBAs). Articles on issues related to conservation, new developments, interventions and advocacy for the protection of biodiversity and their habitat, activities of IBCN members and IBCN partner NGOs are also published.

IBCN gives an opportunity to bring conservation issues to the national audience and opportunity to participate in network activities, surveys, research projects and workshops. People can share their knowledge and time for bird conservation on a common platform of IBCN.

Objectives of IBCN:

1. Identification of the key sites (IBA) for birds with conservation priorities.
2. Conducting workshops and meetings on bird conservation.
3. Collections of scientific data on birds through various sources and make it available to policy makers and administrators. .
4. Encouragement of people for community participation in conservation activities.
5. Compilation of the time series data of the distribution of threatened birds and to study the effect of climate change.

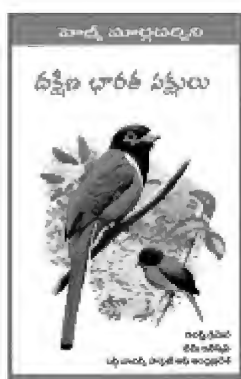
The network monitors and safeguards IBAs through:

1. Research and Scientific Monitoring
2. Close watch and verification of the management status of the IBA sites.
3. Providing ecological requirements of particular species for conservation action awareness, education programs and campaigning.
4. Policy and Advocacy for enforcement and proper implementation of laws and regulations related to bird conservation.
5. Fund raising activities to meet the objectives of IBCN.



Work done through IBA-IBCN:

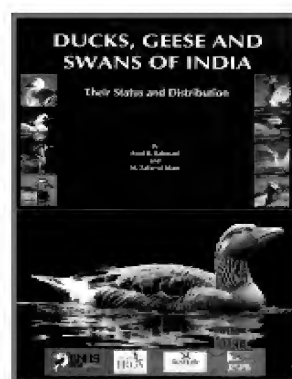
1. An inventory on IBAs in India (Important Bird Areas in India: Priority sites for conservation), which is the result of five years' exhaustive work by BNHS team and IBCN members has been published in 2004. It is the first attempt to list all the possible sites in India for bird conservation. 466 IBAs identified throughout the country, covering almost all threatened species, endemic and congregatory birds. The sites are identified as being critical for the conservation of birds, in particular species that are globally threatened, restricted in range or restricted to particular biomes. Published and distributed field guides such as Birds of Northern India and Birds of Southern India in several regional languages.
2. Book on "*Potential and existing Ramsar Sites in India*", which shows the important wetlands of India, published in 2008 and covers near about 135 potential Ramsar sites along with the existing 25.
3. Book on "*Ducks, Geese and Swans of India*" published in 2008 after an extensive study has become an important archival for ornithologists.



Birds of Southern India
(in Regional language)



Quarterly newsletter
of IBA-IBCN
(Credit: IBCN Photo Library)



Recent Publication
of IBA-IBCN

Work going on at present:

1. An online programme launched by the BirdLife and RSPB as WorldBirds, will be an initiative to enable amateur birdwatchers and professional conservationists to document their data online on website www.worldbirds.org. This would generate a vast database of bird sightings around the country and would help streamline conservation efforts of birds at different levels.
2. Compilation of data to study the climate change impacts on the conservation of birds in India with help of published literature, project reports, specimen collected and other authorized sources.
3. Development of educational and awareness material in English and the various vernacular languages.
4. Organization of bird identification and bird census training workshops regularly.

ARTICLE



IBA workshop at Kutch
(Credit: IBCN Photo Library)



IBA workshop at Shillong
(Credit: IBCN Photo Library)

Future Plans

1. Lobbying for the protection of the not officially protected IBAs in India at both the National and State level by preparing brochures, pamphlets and conducting nation-wide meetings.
2. GIS modeling to study the climate change impacts on the conservation of birds in India.
3. Formation of model Site Support Groups (SSGs) for each IBA or cluster of IBAs.



IBCN members monitoring an IBA
(Credit: IBCN Photo Library)



Telineelapuram, Andhra Pradesh has been declared as an IBA due to global importance of avifauna like Spot-billed Pelicans *Pelecanus philippensis* (Credit: Anand C. Sekar)

If you, your organization or group is not IBCN member, it is the time to step out to join it and help to expand its wings for effective bird conservation efforts. Contact below for more details.

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Methods of capture and radio tracking of Western Tragopan *Tragopan melanocephalus* J.E. Gray 1829 in the Great Himalayan National Park, India

Ramesh, K., S. Sathyakumar and G.S. Rawat

Attempts were made to capture and radio track the Western Tragopan (*Tragopan melanocephalus* J.E. Gray 1829) in the Great Himalayan National Park, Himachal Pradesh, India. Leg-hold snares and automated fall nets were used to trap the birds. During the intensive efforts of 6,694 trap hours, one female Western Tragopan and 12 other bird species were captured. The trapped Western Tragopan was radio-tagged with necklace collar and was tracked for six months. Using 72 radio locations and Minimum Convex Polygon Method, the estimated home range was 31.6 ha, and it was 20.5 ha for summer and 4.7 ha for autumn. The bird showed preference for high tree cover, thick undergrowth of montane bamboo, high litter cover and perennial water sources. In addition, much of the findings on its ecology broadly corroborated with the earlier observations, suggesting that in spite of a very low sample size, credible information could be gathered through radio tracking and data collection at a finer scale. This study still remains the only investigation involving trapping and radio tagging of the Western Tragopan anywhere in the world. We recommend that the approach and methods adopted in this study be taken forward for not only the Western Tragopan, but also for other ground dwelling birds with similar habits, for generating decisive ecological information and subsequent conservation planning for these species.

J. Bombay Nat. Hist. Soc., (2008), Vol. 105 (2): pp. 127-132

The waterbirds of Pulicat Lake, Andhra Pradesh - Tamil Nadu, India, including those of the adjoining wetlands and heronries

Kannan, V., R. Manakadan, P. Rao, K.K. Mohapatra, S. Sivakumar and V. Santharam

This paper provides an account of the waterbirds of Pulicat lake based primarily on findings of a 3-year study (December 2004 to November 2007) that covered the entire expanse of the Pulicat lake and supplemented by records of earlier workers. It also describes the waterbirds occurring in the adjoining heronries and freshwater wetlands, thus providing a comprehensive account of the avifauna of the Pulicat lake area. The status, distribution and abundance of 113 waterbird species (both resident and migratory) from the Pulicat lake area are discussed.

J. Bombay Nat. Hist. Soc., (2008), Vol. 105 (2): pp. 162-180

Breeding ecology of Kentish Plover *Charadrius alexandrinus* in an extremely hot environment

Kosztolanyi, A., S. Javed, C. Kupper, I.C. Cuthill, A. Al Shamsi & T. Szekely

Capsule Hot environments are associated with more biparental care, high nest-site fidelity and low mate fidelity.

Aims To investigate the breeding ecology and parental behaviour of Kentish Plovers in an extremely hot environment. Kentish Plovers have an unusually diverse breeding system in which the frequencies of biparental, female-only and male-only care vary between populations. A common, but rarely tested, explanation for such a variation is local adaptation: birds exhibit social traits that are adaptive to their breeding environment. In particular, we investigated the effect of a hot environment on breeding success, distribution of care types, and mate and site fidelity.



ABSTRACTS

Methods A breeding population of approximately 200 pairs of Kentish Plovers was investigated in 2005 and 2006 at Al Wathba Wetland near Abu Dhabi in the United Arab Emirates.

Results We found high nest-site fidelity, low mate fidelity and more biparental care in Al Wathba than in most temperate zone populations of Kentish Plovers.

Conclusions Our results are consistent with the argument that a harsh environment can select for biparental care. However, further studies are warranted to distinguish between alternative hypotheses for the different distribution of social behaviours of breeding populations.

Bird Study, (2009), Vol. 56: pp. 244–252

Spring migration of Eurasian Cranes *Grus grus* from Gujarat, India to their northern breeding grounds

Higuchi, H., S. Javed, M. Nagendran & M. Fujita

Three Eurasian Cranes *Grus grus* were successfully satellite tracked during their spring migration north from Gujarat, western India. They used the same migratory flyway across Pakistan and Afghanistan, skirting the Hindukush mountains, during their spring migration north, but their stopover sites differed from each other. The cranes summered at three different locations, which were not too far from the headwaters of Ob River, in western Russia. They covered total migration distances ranging from 3,950 km to 4,786 km. The total number of stopovers ranged from three to eight. This migratory behavior suggests that there are several wetlands along the flyway that are important for these long distant migrants, and conservation of many of these wetlands warrants serious consideration, especially if any of them are under imminent danger of being altered by humans. The wetlands in the breeding areas support thousands of cranes, and it is also in this same region that the last of the breeding grounds of the critically endangered western flock of Siberian Cranes are to be found. This region will be important for the conservation of cranes.

Global Environmental Research, (2008), Vol. 12: pp. 69-74

Inter-colony variations in nesting ecology of Painted Stork (*Mycteria leucocephala*) in the Delhi Zoo (North India)

Thangarasu M. & A.J. Urfi

Colonization pattern, clutch size variations and nest mortalities were studied in a wild population of Painted Stork (*Mycteria leucocephala*) in Delhi Zoo, India during 2005-2006. Among the seven different colonies in the zoo, colony 3 was the first to be occupied in both years. Nest initiation dates were significantly different across colonies. Initiation dates of satellite colonies were 7-15 days later than the island colonies (16-19 August). Clutch size varied among different colonies (1.41- 3.04) with colonies 3 and 4 exhibiting highest values, 3.04 and 2.70 respectively. Birds nesting early (<14 days since nest initiation date) had higher clutch sizes compared to later nesters and those nesting in satellite colonies. House Crow (*Corvus splendens*) and Black Kite (*Milvus migrans*) were the major predator on eggs and chicks. The significance of site specific studies in providing conservation insights and setting the foundation for long term population monitoring projects is highlighted.

Waterbirds, (2009), Vol. 32 (2): pp. 352-356





USER FORUM

Different facilities for users on www.bnhsenvnis.nic.in website are as follows:

- Users can search the information through different **databases** focussing on avian ecology. Databases include bibliography, abstracts, endemic birds of India, threatened birds of India, Ramsar sites, Important Bird Areas (IBAs) etc.
- **Abstract service** has been launched recently and provides abstracts of research papers on avian ecology. Right now very few abstracts are available online and our team is working on this database.
- Basic information like establishment and **objectives** of ENVIS Centre is provided on 'About ENVIS' page.
- The list and contact details of the **other ENVIS Centres** on various subject areas facilitate users to navigate in different subject areas of environmental studies.
- The detailed information about **BNHS**, our parent organisation and its functioning has been provided.
- Link to the **other websites** and **journals** devoted to the Avian Ecology are available.
- **"Kid's Corner"** aimed towards school-going children.
- All issues of **Buceros**, **BNHS-ENVIS publication** are available in PDF format.
- Information like **powerpoint presentations**, **photogallery** are also available.

Request for articles & literature

Dear Readers,

- 1) You are welcome to contribute articles, photographs pertaining to avian ecology, in our subsequent newsletters.
- 2) To strengthen our databases we would like to request you to send us literature which is not available on our website.

Feedback & Queries

You can send your feedback pertaining to our website and Buceros publication via post or email. Any queries related to avian ecology can be sent on the following addresses.

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BOMBAY NATURAL HISTORY SOCIETY

Founded in 1883 for the study of natural history, the Bombay Natural History Society (BNHS) is now one of the premier research and conservation organisations in the country. The Society publishes a journal, the Journal of the Bombay Natural History Society, devoted to natural history and also has a popular publication, Hornbill, for the layman. It has also published a number of books on wildlife and nature. Its library has a large collection of books and scientific journals on wildlife and the environment. The Society's invaluable collection of bird, mammal, reptile, amphibian and insect specimens has been recognised as a National Heritage Collection.

Membership of the Society is open to individuals and institutions within India and abroad. For more details, please write to:

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